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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/817,322 | 03/30/2004 | Robert C. Taft | 08211/1200892-US2/P05920 | 1096 |
| 38845 | 7590 | 04/19/2005 | EXAMINER | |
| DARBY & DARBY P.C. P.O. BOX 5257 NEW YORK, NY 10150-5257 | | | LAUTURE, JOSEPH J | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2819 | |

DATE MAILED: 04/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/817,322

Applicant(s)

TAFT ET AL.

Examiner

Joseph Lauture

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 March 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 16 and 20-22 is/are rejected.
- 7) ☒ Claim(s) 2-15 and 17-19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Specification

The application has not been checked to the extent necessary to determine the presence of all possible typographical and grammatical errors. Applicant's cooperation is requested in correcting any errors of which he/she may become aware in the application.

The following is an art rejection of the claims as understood by the examiner.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 16, 20, 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hurrell (US 6,707,403) in view of Somayajula et al (US 6,473,021) and Heim et al (US 6,617,994).

Regarding claims 1, 16 and 22, Hurrell teaches in figure (1) an analog-to-digital converter including calibration circuitry, the converter comprising: a reference calibration circuit (42) configured to provide a calibration reference signal; a conversion circuit including: a reference circuit that provides a plurality of reference signals ($V_{\text{ref-Hi}}$, $V_{\text{ref-Lo}}$), and a comparison circuit (27) that is configured to provide a plurality of comparator output signals in response to the plurality of reference signals and an input signal, wherein the input signal is generated from the calibration reference signal if a calibration

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signal is asserted, and wherein one of the reference voltages is selected as the reference signal in response to a control signal from a control circuit (38);

Hurrell teaches the essential features of the claimed invention as set forth above, except for implementing the converter system on an integrated circuit chip. However, Somayajula et al teach in figure (2) an analog-to-digital converter that includes calibration circuitry, wherein the converter is implemented on an integrated circuit chip. It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate this technique of Somayajula et al into the system of Hurrell to improve system performance and reliability because this would yield a more compact system and improve the operational linearity of the apparatus (See column 2, lines 65-67).

Regarding claims 20 and 21, Hurrell teaches the essential features of the claimed invention, as set forth above, except for the plurality of conversion circuits that include a plurality of comparators. However, Heim et al teach in figure (3) a flash analog-to-digital converter having a plurality of conversion circuits including a plurality of comparators, each producing a bit that combines in an aggregate digital signal. It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate this design scheme of Heim et al into the system of Hurrell to improve system performance and reliability because this would overcome the limitations associated with flash analog-to-digital converters (See Column 1, lines 56-57).

Allowable Subject Matter

Claims 2-15 and 17-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Citation Of Prior Arts

The following document considered but not relied upon is deemed relevant to Applicant's claimed invention.

Jonsson et al (US 2004/0075599 A1) teach an analog-to-digital converter including calibration circuitry.

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CONTACT INFORMATION

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Lauture, whose telephone number is (571) 272-1805. The examiner can normally be reached Monday thru Friday between 9:30 am and 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Tokar can be reached at (571) 272-1812. The fax number for the organization to which this application is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist whose telephone number is (571) 272-1562.

Joseph Lauture
Group: 2819
Date: 04/15/2005


PEGUY JEANPIE
PRIMARY EXAMINER